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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/644,857

Applicant(s)

SASHIHARA, TOSHIYUKI

Examiner

JIANYE WU

Art Unit

2462

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 October 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 and 19-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 and 19-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-8508)
Paper No(s)/Mail Date 10/22/09
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendments/Remarks

1. Applicant's arguments and all other documents filed on 10/22/09 have been fully considered but are not persuasive. Claims 19-20 have been amended, claim 21 is newly added. Claims 1-17 and 19-21 are pending.
2. For **claim 1**, Applicant argues: "Applicant strongly disagrees with the several assertions made in the Office Action with respect to the purported combining of Barnes and Hawthorne. First, paragraphs 0110- 0115 of Barnes describe that authentication data is used to determine whether a user's voice, face, iris, finger print, or other input matches data stored in memory, whereby that information is provided to a remote computer, which uses that data as authentication data to decide whether or not the user of the computer is an authorized user. Clearly this authentication data in Barnes is data unique to a user and it is not data of a hot spot dealer that is the same for each user" (last paragraph of page 9 extended to page 10).

In response, Examiner respectfully disagrees: Barnes discloses the authentication data unique to a user, while Hawthorne discloses an identification code that is unique to a service provider to which the user is subscribed to, the combination of Barnes and Hawthorne discloses all limitation of the claim, as recited in Office action. This is like a mobile phone user subscribing to a service provider (hot spot dealer) such as Verizon or AT&T: Hawthorne discloses the ID of Verizon or AT&T, while Hawthorne address user authentication data assuming service provider ID is known. The combination of the service provider ID and user authentication data allows the mobile phone user to access to the service.

3. For **claim 19 and 20**, Applicant argues: “those claims recite that the congestion degree is displayed on the display means having one of a plurality of colors for providing an indication of a level of congestion among a plurality of levels of congestion.” and Luciani “has nothing to do with network congestion” (last paragraph of page 10).

In response, Examiner respectfully disagrees: First, Luciani clearly discloses that Luciani discloses the technique of using different color to show the congestion degree (“green, yellow and red, to signify different states of congestion”, col. 7, line 2-3); Second, though Luciani teaches *transportation* traffic congestion instead of *network* congestion, it solves the same *congestion* problem. The Supreme Court in KSR reaffirmed the familiar framework for determining obviousness as set forth in *Graham v. John Deere Co.*, one of which being the references can be combined when they are designed to *solve the same problem* (“(2) by assuming “that a person of ordinary skill attempting to solve a problem will be led only to those elements of prior art designed to solve the same problem”, see MPEP 2141(I), first paragraph). Therefore, Applicant's argument is not persuasive.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 1-2, 8-12 and 16** are rejected under 35 U.S.C. 103(a) as being unpatentable over Barnes, JR (US 20030065805 A1, hereinafter Barnes) in view of

Hawthorne et al. (US 20030152075, hereinafter Hawthorne), further in view of Ahn et al. (US 20020061745 A1, hereinafter Ahn).

For **claim 1 and 11**, Barnes discloses a system (101 of Fig. 1) and a method for informing that the user is in or not in wireless LAN (WLAN, [0044], line 14) service area comprising at least:

a preset data storing means (memory 160 of Fig.1; or "stored in memory", first line of [0110]) for storing identification data (authentic. module 125 of Fig. 1; or "the authentication data", [0110], line 1) of a hot spot dealer (the service provider of a particular service area, such as 235 of Fig. 2);

a wireless communication means ("Communication device 101", [0034], Fig.1; or anyone of wireless LAN, WLAN, wireless MAN, and wireless PAN in [0044], line 12-15) that includes a display means (Display 175 of Fig. 1, which is included in 101; or high resolution color display or dynamic touch screen, [0037], line 4-12) and

a means functioning (101 of Fig. 1):

when providing a display as to whether the user is in the service area of a hot spot service (a service provider which is interpreted as the hot spot dealer, such as area 235 in FIG. 2), to obtain the electric field intensity ("strength of the communication signal", [0032], line 17-19) of a channel as a subject of survey and identification data of a dealer (the user identification data stored in a dealer, which is inherent in that they must present otherwise the authentication would not be possible) and check (validation, [0110], line 8) whether the obtained identification data ("receipt of the authentication data", [0110], line 8) is identical with identification data (the data stored in memory,

[0110], line 4-5) of the user's own subscribed hot spot dealer (the authentication data of the user, [0110], line 5-7), which is stored in the preset data storing means (memory 160 or Authentic. Module 125 of Fig. 1);

when the obtained identification data is identical with the identification data of the user's own subscribed hot spot dealer (validation, [0110], line 8 or authentication process described [0110]-[0115]), to output data for display on the display means to enable the user to determine that the obtained electric field intensity is that of the user's own subscribed hot spot dealer ("based on strength of the communication signal", [0032], line 17-19, which suggests that the strength of the signal has been determined); and

when the obtained identification data is identical with the identification data of the service provider (validation, [0110], line 8, which checks if obtained identification data is identical to the identification data of the service provider), to output data for display on the display means to enable the user determine that the obtained electric field intensity is that of the service provider ("the signal to the display for presentation to the user", [0045], line 10-11, which suggests the signal strength of the service area is provided to the user).

Barnes does not explicitly disclose the identification data of the hot spot dealer to which the user is subscribed corresponding to an identification code that is unique to the hot spot dealer to which the user is subscribed and is the same for all other users who are subscribed to the hot spot dealer and does not include any data unique to the user

or any of the other users; and the service provider is the roaming contract relation dealer.

In the same field of endeavor, Hawthorne discloses user is subscribed corresponding to an identification code that is unique to a service provider to which the user is subscribed and is the same for all other users are subscribed to the service provider and does not include any data unique to the user or any of the other users (FIG. 1 in view of [0009] shows all customer A, B and C use the same service provider ID VID:20 and does not include any data unique to the user or any of the other users);

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine Barnes and Hawthorne to use a unique service provider ID by all users to access the service provider for benefit of simplicity.

Barnes in view of Hawthorne does not explicitly disclose the service provider is the roaming contract relation dealer;

Ahn discloses a roaming service system ("a GSM service subscriber roams to the CDMA service", [0010]) as the contract service provider (CDMA system provides contract service for GMS system user [0010]) so that the user of one service provider (GSM system, [0010]) may get service in the area of another service provider (CDMS system, [0010]).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to use the roaming contract relation dealer as disclosed in Ahn to provide the service as disclosed in Barnes for the benefit of providing the secured service for the user in a wide area.

As to **claim 2 and 12**, Barnes in view of Hawthorne and Ahn discloses the system according to claim 1 and 11, wherein the display means includes:

a light-emitting means (LED(s), or a high resolution color display, [0037], line 5-11; the color display may be LCD that is commonly used as laptop monitor or mobile devices such as cellular phones); and in the case when the user is in the service area of the user's own subscribed hot spot dealer and the case when the user is in the service area of the dealer in roaming contract relation to the own hot spot dealer.

a control means (circuit for controlling LEDs or the high resolution color display, [0037], line 5-11) for causing the light-emitting means to emit informing light in different colors (color display, line 9 of [0037] or using different colors of LEDs) in the case when the user is in the service area of the user's own subscribed hot spot dealer and the case when the user is in the service area of the dealer in roaming contract relation to the own hot spot dealer (in the service area of the service provider).

As to **claim 8**, Barnes in view of Hawthorne and Ahn discloses the system according to claim 1, which further comprises an agent authentication means (authentication module 125 of Fig. 1) set by the user's own subscribed hot spot dealer and a hot spot dealer in roaming contract relation to the own hot spot dealer (the roaming contract service area is considered as the extended service area, to which everything applies in the same way); and in which:

the obtained identification data (receipt of the authentication data, [0110], line 8) is identical with identification data (the data stored in memory, [0110], line 4-5) of the user's own subscribed hot spot dealer (the authentication data of the user, [0110], line

5-7), which is stored in the preset data storing means (memory 160 or Authentic.

Module 125 of Fig. 1);

at the user side terminal data concerning the authentication means of the user's own subscribed hot spot dealer and a hot spot dealer in roaming contract relation to the own hot spot dealer and data necessary for these authentications (receipt of the authentication data, [0110], line 8 or the authentication data of the user, [0110], line 5-7) are preliminarily stored in the memory means (stored in memory, [0110]);

the agent authentication means carries out authentication by using the data preset by the user (validation, [0110], line 8); and

when the agent authentication means has carried out authentication successfully, data indicative of that the pertinent service area is that of the successfully authenticated hot spot dealer (strength of the communication signal, [0032], line 17-19; seeing the signal indicates the successfully authentication) is outputted to the display means for display (displayed on the display device, [0112], line 1-2).

As to **claim 9**, Barnes in view of Hawthorne and Ahn discloses the system according to claim 1, Barnes further discloses a means for deciding, when a check is made as to whether the obtained identification data is identical with the identification data of the user's own subscribed hot spot dealer as stored in the preset data storing means, that the obtained identification data and the identification data stored in the preset data storing means are identical when the two data are not perfectly identical but partly identical ("sufficient to identify the user", [0113], last 3 lines from the bottom).

As to **claim 10**, Barnes in view of Hawthorne and Ahn discloses the system according to claim 1, Barnes further discloses authentication means for performing an authentication of the user's own subscribed hot spot dealer (authentication module 125 of Fig. 1) or the roaming contract relation dealer, the authentication being performed using data preset by the user (the data stored in memory, [0110], line 4-5), whereby the authentication means outputs an indication on the display of the display means as to whether or not the authentication was successful (validation, [0110], line 8).

As to **claim 16**, Barnes in view of Hawthorne and Ahn claim 12, Barnes further discloses the display means includes:

- a light-emitting means (LED, [0037]; or LCD that is commonly used as laptop monitor); and

- a means functioning to emit light in different colors (a high resolution color display, [0037] or LED) in the case of displaying that the user is in the service areas (as explained in claim 4);

Barnes in view of Hawthorne and Ahn is **silent on** displaying the network congestion information by controlling the flickering cycle according to the network congestion degree.

However, displaying the network congestion information is disclosed by claim 4, and the concept and benefit of displaying different degrees of a variable by controlling the flickering cycle is well known in the art and Examiner takes an Official Notice of this notion.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to use the flickering rate of a display to indicate the degree of the network congestion.

6. **Claims 3 and 13** are rejected under 35 U.S.C. 103(a) as being unpatentable over Barnes in view of Connor (US 2003/0156542 A1, hereinafter **Connor**).

For **claims 3 and 13**, Barnes discloses a system (Fig. 1) for informing that the user is in or not in a wireless LAN service area strength of the communication signal, (occurrence of ... within a predetermined distance, [0032], line 3-5, or WLAN, [0044]), obtaining congestion degree in service area and outputting the obtained congestion degree (congestion, [0327]) to display means and display the status of the system to the display means.

Barnes is **silent on** the displaying information is network congestion occurring at data link level.

In the same field of endeavor, Connor discloses information of network congestion at data link level (congestion-indication, FIG. 2; notice that FIG. 2 shows the congestion information in a frame, which is at data link level).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine Barnes with Connor by displaying congestion at data link level disclosed by Connor using the display means taught by Barnes, stated in the office action in order to monitor the operation status of the device (monitor the use of the device, [0015], line 7-8).

7. **Claims 4, 6 and 14** are rejected under 35 U.S.C. 103(a) as being unpatentable over Barnes in view of Hawthorne and Ahn, further in view of Connor (US 20030156542 A1, hereinafter **Connor**).

As to **claim 4 and 14**, Barnes in view of Hawthorne and Ahn discloses claim 1 and 11, but is silent on a means for collecting data link layer level protocol data; obtaining the network congestion degree in the service area and outputting the obtained network congestion degree to the display means.

In the same field of endeavor, Connor discloses information of network congestion at data link level (congestion-indication, FIG. 2; notice that FIG. 2 shows a frame, which is at data link level).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine Barnes with Connor to display network congestion information at data link level in order to monitor the operation status of the device (monitor the use of the device, [0015], line 7-8). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to display network congestion information on a wireless device.

As to **claim 6**, Barnes in view of Hawthorne, Ahn and Connor discloses claim 4 Barnes further discloses the display means includes:

a light-emitting means (LED, [0037]; or LCD that is commonly used as laptop monitor); and

a means functioning to emit light in different colors (a high resolution color display, [0037] or LED) in the case of displaying that the user is in the service areas (as explained in claim 4);

Barnes in view of Hawthorne, Ahn and Connor is **silent on** displaying the network congestion information by controlling the flickering cycle according to the network congestion degree.

However, displaying the network congestion information is disclosed by claim 4, and the concept and benefit of displaying different degrees of a variable by controlling the flickering cycle is well known in the art and Examiner takes an Official Notice of this notion.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to use the flickering rate of a display to indicate the degree of the network congestion.

8. **Claims 5 and 15** are rejected under 35 U.S.C. 103(a) as being unpatentable over Barnes in view of Hawthorne and Ahn, further in view of Akama (US 20020058530 A1, hereinafter **Akama**).

As to **claim 5 and 15**, Barnes in view of Hawthorne and Ahn discloses claim 1 and 11, but is silent on wherein the display means includes: a light-emitting means (LED, [0037]; or a high resolution color display such as LCD, [0037], line 5-11);

Barnes is silent on the display means includes a means functioning to control the display of the congestion degree by controlling the flickering period of the light-emitting means based on the congestion degree.

In the same field of endeavor, Akama discloses displaying information using different flickering period depending on change of conditions ([0069], line 4-7), which can be the congestion degree.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to use the flickering rate of a display to indicate the degree of the network congestion for a good notification ([0069], line 5).

9. **Claims 7 and 17** are rejected under 35 U.S.C. 103(a) as being unpatentable over Barnes in view of Hawthorne and Ahn, further in view of Jim Geier, "Overview of the IEEE 802.11 Standard", Dec 6, 2001, hereinafter **Geier**.

As to **claim 7 and 17**, Barnes in view of Hawthorne and Ahn discloses claim 1 and 11, but **is silent** on using wireless LAN ESS (extended service set) ID as identification data.

In the same field of endeavor, Geier teaches ESS (Subsection "Extended Service Set (ESS) Networks", page 12; particularly Fig. 3.7). Since Geier teaches more details of wireless LAN standard that is disclosed in Barnes, it is obvious expedient to combine Barnes and Geier together to use ESS ID as identification data.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to display to use ESS ID as identification data due to obvious industrial expedient for the benefit of applying the technology to more sophisticated networks.

10. **Claims 19 and 21** are rejected under 35 U.S.C. 103(a) as being unpatentable over Barnes in view of Hawthorne, Ahn and Conner, further in view of Jim Geier,

"Overview of the IEEE 802.11 Standard", Dec 6, 2001, hereinafter **Geier** and Luciani (US 6505114 B2).

As to **claim 19**, Barnes in view of Hawthorne, Ahn and Conner claim 4, but is silent on wherein the congestion degree is obtained by measuring reliability of reception of an acknowledged (ACK) frame that is transmitted by an access point, or by measuring frequency of reception of a Clear to Send (CTS) frame that is transmitted by the access point.

However, Geier discloses ACK (ACK, Page 17) frame type and CTS (CTS, Page 17) frame type, and wherein the congestion degree is displayed on the display means having one of a plurality of colors for providing an indication of a level of congestion.

Barnes in view of Hawthorne, Ahn and Conner teaches the concept of WLAN and Geier further discloses details of the WLAN protocol.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to obtain congestion degree by measuring reliability of reception of an acknowledged (ACK) frame that is transmitted by an access point, or by measuring frequency of reception of a Clear to Send (CTS) frame that is transmitted by the access point.

Barnes in view of Hawthorne, Ahn, Conner and Geier is silent on using a plurality of colors for providing an indication of a level of congestion among a plurality of levels of congestion.

However, using a plurality of colors for providing an indication of a level of congestion is a commonly used technique in the art, for example, Luciani discloses the

technique ("green, yellow and red, to signify different states of congestion", col. 7, line 2-3).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine Barnes in view of Hawthorne, Ahn, Conner and Geier with Luciani to use a plurality of colors for providing an indication of a level of congestion for better understanding of network status.

As to **claim 21**, Barnes in view of Hawthorne, Ahn and Connor discloses claim 4, Barnes further disclose the system is a Carrier Sense Multiple Access System, and wherein the congestion degree is obtained by periodically measuring a carrier sense function ("WLAN module is Wi-Fi (short for wireless fidelity) compatible, which means that is compliant with the IEEE 802.11b specification". [0055]; note that a system compliant with the IEEE 802.b is a Carrier Sense Multiple Access System as acknowledge by Applicant in Specification [0066], "IEEE 802.11 protocol, for instance, data transmission is started after confirming with carrier sense function that no other terminal is transmitting any data (CSMA/CA, i.e., Carrier Sense Multiple Access with Collision Avoidance");

Barnes in view of Hawthorne, Ahn, Conner and Geier is silent on the congestion degree is displayed on the display means having one of a plurality of colors for providing an indication of a level of congestion among a plurality of levels of congestion.

Barnes in view of Hawthorne, Ahn, Conner and Geier is silent on using a plurality of colors for providing an indication of a level of congestion among a plurality of levels of congestion.

However, using a plurality of colors for providing an indication of a level of congestion is a commonly used technique in the art, for example, Luciani discloses the technique ("green, yellow and red, to signify different states of congestion", col. 7, line 2-3).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine Barnes in view of Hawthorne, Ahn, Conner and Geier with Luciani to use a plurality of colors for providing an indication of a level of congestion for better understanding of network status.

11. **Claim 20** is rejected under 35 U.S.C. 103(a) as being unpatentable over Barnes in view of Hawthorne, Ahn and Conner, further in view of Jim Geier and Luciani .

As to **claim 20**, Barnes in view of Hawthorne and Ahn discloses the method according to claim 11, but is silent on wherein the congestion degree is obtained by measuring reliability of reception of an acknowledged (ACK) frame that is transmitted by an access point, or by measuring frequency of reception of a Clear to Send (CTS) frame that is transmitted by the access point, and wherein the congestion degree is displayed on the display means having one of a plurality of colors for providing an indication of a level of congestion.

Geier discloses ACK (ACK, Page 17) frame type and CTS (CTS, Page 17) frame type.

Barnes in view of Hawthorne and Ahn teaches the concept of WLAN and Geier further discloses details of the WLAN protocol.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine Barnes in view of Hawthorne and Ahn with Geier to obtain congestion degree by measuring reliability of reception of an acknowledged (ACK) frame that is transmitted by an access point, or by measuring frequency of reception of a Clear to Send (CTS) frame that is transmitted by the access point in order to provide full WLAN service.

Barnes in view of Hawthorne, Ahn and Geier is silent on using a plurality of colors for providing an indication of a level of congestion among a plurality of levels of congestion.

However, using a plurality of colors for providing an indication of a level of congestion is a commonly used technique in the art, for example, Luciani discloses the technique ("green, yellow and red, to signify different states of congestion", col. 7, line 2-3).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine Barnes in view of Hawthorne, Ahn and Geier with Luciani to use a plurality of colors for providing an indication of a level of congestion for better understanding of network status.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jianye Wu whose telephone number is (571)270-1665. The examiner can normally be reached on Monday to Thursday, 8am to 7pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on (571)272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

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/Jianye Wu/
Examiner, Art Unit 2462

/Seema S. Rao/
Supervisory Patent Examiner, Art Unit 2462